

## **REMARKS**

Claims 16-26 were pending in the present application. Applicants have canceled these claims without prejudice and without acquiescing to the Examiner's arguments. Applicants reserve the right to prosecute the canceled claims in the future.

Applicants have added new claims 31-38, which are supported in the specification, and do not include new matter. See Specification at pages 8, 20-21 and Figures 1, 3-4. In particular, Figure 3 shows the formula of tetraphenyl-dihydroxychlorins ( $\text{TPC}(\text{OH})_2$ ), which were identified as compounds 3 through 24 at Table 1. Figure 4 shows the formula of tetraphenyl-tetrahydroxybacteriochlorins ( $\text{TPB}(\text{OH})_4$ ), which were identified as compounds 29 and 30 at Table 2. Tables 1 and 2 specify the  $\text{R}_2$ ,  $\text{R}_3$ ,  $\text{R}_4$ ,  $\text{R}_5$  and  $\text{R}_6$  substituents of the tetraphenylchlorins and tetraphenylbacteriochlorins of the present invention. For example,  $\text{T}(\text{m-OH})\text{PC}(\text{OH})_2$  (compound 11) is a tetraphenyl-dihydroxychlorin having the formula shown in Figure 3, where  $\text{R}_3$  is a hydroxy group. Similarly,  $\text{H}_2\text{TPB}(\text{OH})_4$  is a tetraphenyl-tetrahydroxybacteriochlorin where  $\text{R}_2$  through  $\text{R}_6$  are hydrogen. The terms "TPC" and "TPB" are commonly known to those skilled in the art to refer to as "tetraphenylchlorin" and "tetraphenylbacteriochlorin" respectively. Furthermore, additional compounds 25 through 28 are described in the specification at page 21 and at Figure 1.

Thus, claims 31-38 are pending in the present application. Applicants address the Examiner's rejections in view of the new claims. Applicants respectfully request reconsideration in view of the following discussion.

### **Rejection under 35 U.S.C. § 112**

Claims 24-26 are objected to under 35 U.S.C. § 112, as allegedly not being self-explanatory because the claims refer to a portion of the specification for the chemical structure of the compounds used. To expedite prosecution without acquiescing to the Examiner's arguments, claims 24-26 have been canceled, rendering the Examiner's objection moot as to these claims. Applicants address the Examiner's objection in view of new claims 31-38. The language in new claims 31-38 specify the chemical structures of the compounds claimed. Thus, the claim language is proper and Applicants respectfully request that this objection be withdrawn.

### **Rejection under 35 U.S.C. § 103**

Claims 16-26 are rejected under 35 U.S.C. § 103(a), as allegedly being unpatentable over Dolphin *et al.* (U.S. Patent 5,648,485). As previously indicated, claims 16-26 have been canceled without prejudice and new claims 31-38 have been added. Applicants address the Examiner's rejections in view of pending claims 31-38.

The Examiner admits that the claimed invention differs from Dolphin *et al.* (See Office Action, page 2). However, the Examiner alleges that it would have been obvious to pick any isomers covered by the general teaching of Dolphin *et al.* and expect the same type of activity in the absence of evidence to the contrary. Applicants must respectfully disagree.

A *prima facie* case of obviousness in a genus-species chemical composition situation requires that the prior art suggest *the claimed compounds* to a person of ordinary skill in the art. MPEP 2144.08 (quoting *Deuel*, 51 F.3d at 1557, emphasis in original). To find such motivation or suggestion, there should be a reasonable likelihood that the claimed invention would have the properties disclosed by the prior art teachings. MPEP 2144.08 (See e.g., *Vaeck*, 947 F.2d at 493). Furthermore, evidence that the claimed invention yields unexpectedly improved properties rebuts the presumption of obviousness. MPEP 2144.08 (quoting *Dillon*, 919 F.2d at 692-93). Applicants respectfully submit that new claims 31-38 are non-obvious.

First, there is no motivation to modify the Dolphin reference because Dolphin is silent with regard to specific substituents in the tetraphenyl-dihydroxychlorins as in the claimed invention. Furthermore, the Dolphin reference simply fails to teach tetraphenyl-tetrahydroxybacteriochlorins (compounds 29-30), triphenyl-dihydroxychlorins (compounds 26-28) and diphenyl-dihydroxychlorin (compound 25). At best, the Examiner is applying an "obvious to try" rationale in support of an obviousness rejection, which is improper. See, MPEP 2144.09.

Second, there is no reasonable likelihood that the claimed invention would have the properties disclosed by the Dolphin reference. Specifically, the Dolphin reference fails to suggest that the claimed compounds would exhibit significantly greater cytotoxicity than known photosensitizers. For example, diphenyl-dihydroxychlorin (compound 25) is 10 times more

potent than BPD-MA, 450 times more potent than PHOTOFRIN™ and 700 times more potent than HpD. Furthermore, T(m-OH)PC(OH)<sub>2</sub> (compound 11), T(o,p,o'-OCH<sub>3</sub>)PB(OH)<sub>4</sub> (compound 30), and meso-5-(p-hydroxyphenyl)-10,15,20-triphenyl-2,3-dihydroxychlorin (compound 27) are more cytotoxic than BPD-MA standard. (See Specification at page 24, lines 8-10, and Tables 3 and 4). As previously indicated, evidence establishing the unexpected or unobvious nature of the claimed invention rebut the presumption of obviousness. MPEP 2144.08 (quoting *Dillon*, 919 F.2d at 692-93).

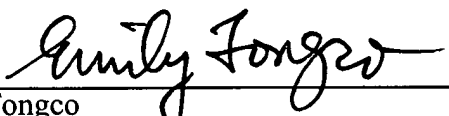
Based on the above, it would not be obvious to choose the claimed invention from the Dolphin reference. As no motivation has been provided to select the claimed species that exhibit significantly greater cytotoxicity than known photosensitizers, a *prima facie* case of obviousness has not been established. Applicants therefore, respectfully request that this rejection be withdrawn.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, Applicant petitions for any required relief including extensions of time and authorizes the Assistant Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing docket no. 273012011200.

Respectfully submitted,

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